Neuralactin Plus™

Casein Hydrolysate 110mg
L-Theanine 57.3mg
Magnesium Ascorbate 55mg (40mg Vit C 3mg Elemental Magnesium)
Calcium Ascorbate 55mg (40 mg Vit C 4.5mg Elemental Calcium)
Calcium Pantothenate 62.5mg (50mg Pantothenic Acid)
Neuralactin Plus™

- Vitamin B1 1.1mg
- Vitamin B2 1.1mg
- Vitamin B3 1.1mg
- Vitamin B6 1.1mg
- Vitamin B12 12μg
- Cellulose capsule
- From the age of five years
Neuralactin Plus™

• Milk proteins are the only proteins synthesised by mammals to produce the primary food for newborns. Beyond their nutritional importance, these proteins and particularly caseins, are now largely recognised as a source of bioactive peptides that have been shown to play a physiological role in peripheral and central systems including the nervous system.

• These bioactive peptides can be released during digestion or manufactured in vitro by specific enzyme-mediated proteolysis (Pihlanto-Leppala, 2001; Silva and Malcata, 2005).
The bioactive peptides were found to have

- Antimicrobial, anti-thrombotic, anti-hypertensive properties
  (Clare et al., 2003; Rutherford and Gill, 2000; Sipola et al., 2002; Takano, 2002; Zucht et al., 1995).
- Immunoregulation
  (Gill et al., 2000)
- Opioid effects
  (Chiba and Yoshikawa, 1986; Meisel and FitzGerald, 2000; Teshemacher, 2003; Zioudrou et al., 1979)

Casein phosphopeptides are carriers of minerals (Ca+, Fe
Bioactive peptide found in the hydrolysate of milk protein is responsible for promoting sleep in newborns due to infant enzymes producing the peptide but these enzymes are not present in adults.
Neuralactin Plus™

Casein hydrolysate is a unique and innovative food. By using the digestive enzyme trypsin with the milk protein casein to produce a hydrolysate (breaking it down into its constituent amino acids - predigested) this produces a bioactive peptide with anti-stress properties and which aids sleep.

Casein hydrolysate does not cause a problem with lactose intolerant individuals.
Effects of a Bovine Alpha S1-Casein Tryptic Hydrolysate (CTH) on Sleep Disorder in Japanese General Population

Zara de Saint-Hilaire*,1, Michaël Messaoudi2, Didier Desor3 and Toshinori Kobayashi4

This study describes the effect of bovine alpha-S1 casein tryptic hydrolysate (CTH) in a representative sample of day-time workers from the general population of Japan with the occurrence of insomnia during the preceding six months. To investigate this issue, 32 subjects, aged between 25 and 40 years, were examined for the subjective sleep quality using the Japanese Pittsburg Sleep Quality Index (PSQI-J).
Neuralactin Plus™

- CTH significantly improves the PSQI total score of the treated subjects. It particularly improves the sleep quality after two weeks of treatment, decreases the sleep latency and the daytime dysfunction after four weeks of treatment.

- Given the anti-stress properties of CTH, it seems possible to relate the detected improvement of sleep aspects to a reduction of stress.
Neuralactin Plus™

Casein hydrolysates bioactive peptide has a high and selective affinity for some receptors in the brain called GABA-A receptors, it stimulates the activity of Gamma-Amino Butyric Acid (GABA), a neuro-transmitter known to inhibit anxiety and the stress response in the brain. (Miclo et al., 2001) It allows regulation of the body's mechanisms of adaptation preventing stress.
Neuralactin Plus™

• The anti-stress efficacy of casein tryptic hydrolysate has been shown in reducing and regulating main side-effects of stress: mood swings, snacking, physical pains, tension, interpersonal problems, digestion, sleep, memory and concentration.

• It is proven to be non-toxic and does not have undesirable side-effects.
Several rigorous scientific studies on humans established proof of effectiveness in treating stress symptoms using casein hydrolysate.
Neuralactin Plus™

• A bovine $\alpha$S1-casein tryptic hydrolysate (CTH) was demonstrated to have an anxiolytic-like activity in the conditioned defensive burying (CDB) test and the elevated plus-maze (EPM) when i.p. injected to rats (Miclo et al., 2001).

• Results obtained from both pre-clinical and clinical studies also suggest the ability of the CTH to protect individuals from the effects of different stressful situations (Guesdon et al., Messaoudi et al., 2005).

• This peptide shows some conformational similarities with nitrazepam (Lecouvey et al., 1997).
Results were observed with Diazepam in accordance with numerous epidemiological and clinical studies in humans that demonstrated the implication of the benzodiazepine in the emergence of risk-taking behaviours as opposed to similar anxiolytic effects using CTH but without the non-adaptive (risk) behaviour
The pharmacological profile of benzodiazepine-receptor agonists consists of anxiolytic, anticonvulsivant, sedative and myorelaxant activities. For long-term use of benzodiazepines, tolerance to certain effects and physical dependence might develop. New agonists without these secondary effects should be of greatest pharmacological interest.
What is considered as milk allergy is often lactose intolerance. If we consider milk allergy, only 2-3% of infants are concerned in developed countries (HOST, 2002).

Knowing that approximately 85-90% of children lose clinical reactivity to milk once they surpass 3 years of age, the adults are rarely concerned.

Neuralactin Plus™

- L-Theanine – an amino acid structurally related to glutamate
- Found in tea, primarily green tea
- Able to cross blood-brain barrier - Yokogoshi et al. (1998a,b)
- Anti-stress effects
- Calming
- Counters alcohol induced loss of glutathione in the liver
- Neuroprotective
- Promotes relaxation through increase in alpha waves
- Reduces time to fall asleep
- Decreases night time awakenings
- Focus and concentration, ability to learn and remember
- Enhances mood through production of dopamine, serotonin and GABA
- No negative side effects or drowsiness
Neuralactin Plus™

- L-Theanine could influence the secretion and function of neurotransmitters in the central nervous system even at 30 min after oral administration (Terashima et al., 1999)
- L-Theanine binds to the glutamate receptor subtypes (AMPA, kainate, and NMDA receptors) and blocks the binding of L-glutamic acid to the glutamate receptors in cortical neurons (Kakuda et al., 2002; Nagasawa et al., 2004)
- Since there are so many neurons activated by glutamic acid in the limbic system of the brain, and because these neurons could modulate the activation of the autonomic nervous system, it is possible that the results in the present study were induced by the antagonistic role of L-theanine to excitation of the glutamatergic phenotype.
Several studies have reported that the oral administration of L-Theanine modified the secretion of neurotransmitters, such as serotonin or dopamine (Kimura and Murata, 1986; Yokogoshi et al., 1998a,b).

There is also a possibility that the observed reduction of acute stress responses is attributable not only to the antagonistic role to glutamatergic receptors but also to other neurotransmitter systems.


L-Theanine, a natural constituent in tea, and its effect on mental state. Nobre AC, Rao A, Owen GN. Unilever Food and Health Research Institute, Olivier van Noortlaan 120, Postbus 114, 3130 AC Vlaardingen, The Netherlands.
Emotional or physiological states in humans are modulated by the chemical behaviours of neurotransmitters, psychological and physiological states could also be influenced by L-Theanine under stress.

L-Theanine reduces psychological and physiological stress responses
Kenta Kimuraa, Makoto Ozekib, Lekh Raj Junejabb and Hideki Ohiraaac
Nagoya University Department of Psychology, Chikusa-ku, Nagoya, 464-8601, Japan 22 June 2006.

Reduction in the heart rate (HR) and salivary immunoglobulin A (s-IgA) responses to an acute stress task relative to the placebo control condition. Moreover, analyses of heart rate variability indicated that the reductions in HR and s-IgA were likely attributable to an attenuation of sympathetic nervous activation. Thus, it was suggested that the oral intake of L-Theanine could cause anti-stress effects via the inhibition of cortical neuron excitation.
There has been an awareness for several years that compounds in green tea increase caffeine’s calorie-burning effects. L-Theanine contributes to the prevention of weight gain and fat accumulation and promotes thermogenesis, it is very useful for restoring balance to systems neglected by people who are on the go. It helps counteract the stimulating effects of caffeine, but complements caffeine’s positive aspects such as fat burning.


Time for tea: mood, blood pressure and cognitive performance effects of caffeine and theanine administered alone and together. Rogers PJ, Smith JE, Heatherley SV, Pleydell-Pearce CW. Department of Experimental Psychology, University of Bristol, 12a Woodland Road, Bristol, BS8 1TU, UK.
L- Theanine has been shown to accelerate the digestion of acetaldehyde (a by-product of alcohol) and neutralise free radicals. It does this by increasing the level of glutathione that is normally depleted by the consumption of alcohol. Not surprisingly, a Japanese study concludes that Theanine could be effective against alcoholic liver injury.

According to one group of researchers, Theanine in green tea partially protects the body from the toxic effects of the cancer drug doxorubicin, at the same time enhancing the drug's effectiveness in tumour cells. However, to be considered scientifically valid, this research needs to be independently replicated by other scientists.


The same neurotransmitters that help us relax also regulate blood pressure in our bodies. Theanine’s calming effect on our mental state is augmented by lowering blood pressure as well. (Yokogoshi et al., 1995)


The deployment of intersensory selective attention: a high-density electrical mapping study of the effects of theanine.

Gomez-Ramirez M, Higgins BA, Rycroft JA, Owen GN, Mahoney J, Shpaner M, Foxe JJ.

Program in Cognitive Neuroscience, Department of Psychology, The City College of the City University of New York, New York, NY, USA.
Neuralactin Plus™

Calcium and Magnesium Ascorbate provide a bioavailable source of Vitamin C which is important for maintaining the health of the adrenal glands. Calcium and Magnesium are important minerals which act together to regulate nerve and muscle activity.
Neuralactin Plus™

Magnesium (muscle and nerve relaxant)
Muscle weakness, spasm
Heart arrhythmia, irregular contraction, or increased heart rate
Softening and weakening of bone
Imbalanced blood sugar levels
Headaches
Elevated blood pressure
Calcium along with magnesium helps to regulate the heart beat, muscle tone, muscle contraction and nerve conduction.

Calcium and/or magnesium imbalance will cause insomnia leading to chronic fatigue and anxiety, sleep disturbances, mental health / depressive disorders.

Imbalance in stomach acid will affect both minerals.

As will PPI’s, tranquillisers and sedatives.
B Vitamins support a wide range of metabolic functions in the nervous system and play a vital role in its structure as well as the formation of neurotransmitters.
Neuralactin Plus™

Essential for the healthy functioning of the nervous system. Vitamin B5 is needed for the correct functioning of the adrenal glands and the production of some hormones and nerve regulating substances. Vitamin B1, Vitamin B6 and Vitamin B12 are essential for the regulation and correct functioning of the entire nervous system including brain function. A deficiency in any of the Vitamin B Complex vitamins can lead to feeling stressed, anxious and depressed.
Neuralactin Plus™

Suitable from the age of five